(19) (11) Publication number: **07029823 A**

Generated Document.

PATENT ABSTRACTS OF JAPAN

(21) Application number: **05154049**

(22) Application date: **25.06.93**

(51) Intl. Cl.: **H01L 21/203** H01L 21/331 H01L 29/73

(30) Priority:

(43) Date of application publication: **31.01.95**

(84) Designated contracting states:

(71) Applicant: **NEC CORP**

(72) Inventor: **TAKANO HIROSHI**

(74) Representative:

(54) FABRICATION OF SEMICONDUCTOR DEVICE

(57) Abstract:

PURPOSE: To shorten the fabrication process of semiconductor device, when epitaxial growth of silicon is conducted selectively by irradiating a silicon substrate with a molecular beam of silicon using a solid source, by simultaneously irradiating the silicon substrate with a molecular beam of solid halide compound.

CONSTITUTION: Silicon oxide 12 is deposited on an n+ type silicon substrate 11 and then an opening 13 is made therein. The silicon substrate 11 is then set on a rotary substrate heating table 2 in a growth chamber 1. Subsequently, the silicon substrate 11 is irradiated simultaneously with molecular beams of silicon, P type impurities and a solid halide compound, i.e., XeF2 (or XeF4) by means of an E gun 3 for Si, a K cell 4 and a K cell 5 for solid halide compound. Consequently, silicon is grown selectively and an epitaxial film 14 is formed at the opening 13.